

THE DYNAMICS OF THE REAL ESTATE MARKET: THE IMPACT OF PRICE CHANGES ON CONSUMER DECISIONS TO PURCHASE HOUSING

Deimena Montvydaitė¹

¹Dr. State Higher Education Institution, Laisvės sq. 23, Panevėžys, Lithuania, E-mail address: deimenam@gmail.com

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Abstract

The real estate market has recently undergone significant changes that influence consumer behavior. The aim of the study is to assess the dynamics of the real estate market and to investigate how changes in housing prices affect consumers' intentions to purchase real estate in the near future, investigating the case of Lithuania. The research methods of scientific literature analysis, statistical data analysis, regression analysis, and logical conclusion formulation are employed. The study's results revealed trends in the growth of real estate market prices in Lithuania. A positive relationship was established between the increase in housing prices and Lithuanian consumers' intentions to buy or build a home within the next 12 months. Although it may seem that rising housing prices could negatively impact intentions to purchase, the study's findings suggest that the factor of increasing prices may encourage purchasing decisions, as consumers, seeing upward price trends, do not want to miss the opportunity to buy before prices rise further. They may view prices as an investment opportunity or trust the improving economic situation.

Keywords: consumer behavior, purchase intentions, real estate market, housing prices. *JEL Codes*: D12, R31.

Introduction

The real estate sector is the most significant asset classes, contributing significantly to the national economy (Eze & Lim, 2013) and adding considerable fortune to the global economy (Ullah & Sepasgozar, 2020), serving as both a critical sector for investment and a fundamental aspect of societal well-being. Housing markets are closely linked to various economic sectors and play a significant role in shaping the overall health, wealth, and stability of economies. Their substantial impact is widely acknowledged (Braun et al., 2023). Housing, as a key part of the real estate market, is closely linked to how consumers make decisions, reflecting wider economic trends. Recently, the real estate market has undergone significant changes, with housing prices experiencing frequent fluctuations. These changes have introduced new challenges for consumers striving to make rational decisions about home purchases.

The Lithuanian real estate market is selected for analysis due to its unique position within the European context and the potential insights it can offer for broader applications. Lithuania, as a rapidly growing economy in the European Union, presents a compelling case for studying the relationship between housing prices and consumer behavior. Since its accession to the European Union in 2004, Lithuania has experienced significant economic transformations, including urbanization, economic liberalization, and increasing foreign investment. These shifts have impacted consumer behavior, particularly in the housing sector, where rapid changes in housing prices and the development of new housing projects have created dynamics in consumer purchase intentions. The relatively small size of Lithuania's market and its integration with broader European trends allow for methodological and practical insights that could be applicable in other countries with similar market structures or undergoing similar transitions. Furthermore, Lithuania's market can provide insights for policymakers, real estate stakeholders, and investors in other countries, particularly in emerging economies that are

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witnessing similar patterns of economic development and real estate growth. By focusing on Lithuania, this study aims not only to contribute to local policy and economic understanding, but also to provide a model of analysis that can inform broader international discussions on housing market dynamics, affordability, and consumer behavior.

Research problem: one of the most pressing issues is the impact of rising housing prices on consumer behavior. Increasing prices create uncertainty and a fear of missing opportunities to invest, prompting some consumers to act impulsively while deterring others. This dynamic raises critical questions about how price changes influence consumer intentions to purchase real estate. Do rising housing prices encourage consumers to buy sooner, perceiving it as an investment opportunity, or do they discourage potential buyers due to affordability concerns and uncertainty? Despite its importance, this relationship remains unclear and requires deeper exploration.

Research hypothesis (H1): increasing housing prices encourage Lithuanian consumers to buy housing sooner.

Research contribution: This study aims to address this hypothesis and the related scientific gap by analyzing the dynamics of the real estate market in Lithuania, specifically investigating the relationship between housing price changes and consumer behavior. By employing scientific literature analysis, statistical data analysis, and regression analysis, the research seeks to uncover how market trends influence consumer intentions to purchase real estate. The findings will provide valuable insights into the behavioral economic factors that shape home-buying decisions, offering practical implications for policymakers, real estate professionals, and financial institutions.

The aim of the research: to assess the dynamics of the real estate market in Lithuania and to investigate how changes in housing prices affect consumers' intentions to purchase real estate in the near future. The objectives of the research: 1. To analyze key aspects of consumer behavior in the real estate market. 2. To assess the dynamics of the real estate market prices in

Lithuania. 3. To evaluate the relationship between the changes in housing prices and Lithuanian consumers' intentions to purchase real estate.

Research methods: scientific literature analysis, statistical data analysis, regression analysis, logical conclusion formulation. The study employs a comprehensive methodological approach to analyze the dynamics of the real estate market in Lithuania and investigate the impact of housing price changes on consumer purchase intentions. Performing scientific literature analysis, a review of academic and professional literature provided a theoretical foundation for understanding consumer behavior in the real estate market. Key studies and theoretical frameworks were analyzed to identify factors influencing purchase intentions and to contextualize real estate market trends within broader global perspectives. Performing statistical data analysis secondary data from Lithuania's official statistics portal was utilized to analyze housing price trends over a period of 2019-2023. This involved organizing, summarizing, and interpreting data to assess the dynamics of real estate market prices. Regression analysis was performed to reveal a quantitative approach and to evaluate the relationship between changes in housing prices and Lithuanian consumers' intentions to purchase or build real estate. Regression models are used to determine the strength and direction of this relationship, complemented by ANOVA to ensure statistical validity. Logical conclusion formulation is performed to reveal the findings from the theoretical analysis and statistical evaluations and to synthesize it to derive logical conclusions. This method ensures the integration of theoretical insights with empirical evidence, providing actionable insights for stakeholders in the real estate sector.

The research consists of three parts: a theoretical analysis of the key aspects of consumer behavior in the real estate market; a statistical data analysis of the dynamics of real estate market prices in Lithuania; and an evaluation of regression analysis results investigating the relationship between changes in housing prices and Lithuanian consumers' intentions to purchase real estate.



Literature Review: The Key Aspects of Consumer Behavior in The Real Estate Market

The decision to purchase residential property is often one of the most significant transactions individuals make in their lifetime (Salzman & Zwinkels, 2017). Owning a home is considered a major personal achievement, as it represents one of the most expensive purchases a person can make and requires careful consideration of multiple factors (Kurniawan et al., 2020).

Consumer purchasing decisions in the real estate market are part of a complex problemsolving process. This process involves identifying personal needs and desires, gathering and evaluating relevant information, comparing alternatives, making the purchase, and reflecting on the decision post-purchase (Kotler & Keller, 2007). These steps highlight the rational and emotional dimensions of consumer behavior, making the real estate market unique in its reliance on long-term commitment, significant financial investment, and the interplay between market conditions and individual aspirations. Understanding these aspects is essential for analyzing how price fluctuations in housing markets influence buyer decisions. The decisionmaking process in the real estate market can be described using a combined model that integrates traditional decision-making steps with internal psychological processes (Figure 1).

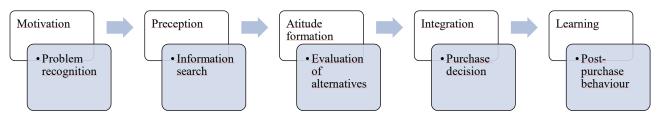


Figure 1. Combined Model of Decision-Making and Psychological Processes

*Source: created by the author based on Kotler & Keller, 2012; Belch & Belch, 2009.

The traditional model of decision-making (Kotler & Keller, 2012) presents a structured pathway. Consumers begin by identifying a need, followed by gathering and evaluating information on potential alternatives, making a purchase, and finally reflecting on their decision. This linear approach highlights the logical steps involved in significant purchases like real estate. However, internal psychological processes (Belch & Belch, 2009), significantly shape how consumers progress through these stages. Factors such as perception, motivation, beliefs, and attitudes influence not only the evaluation of alternatives, but also the overall satisfaction with the decision made. These psychological elements add complexity to the decision-making process, as emotions and individual biases often interplay with rational analysis. By integrating these two perspectives, the combined model of decision-making and psychological processes in Figure 1, provides a comprehensive framework to analyze consumer behavior in the real estate

market. This approach underscores the need to consider both external market dynamics, such as housing price trends, and internal cognitive and emotional factors when studying purchasing decisions.

Building on the understanding of decisionmaking and psychological processes, Hassan, Ahmad, and Hashim (2021) illustrate the connection between housing purchase intention, housing preferences, and actual housing purchase decisions into the model, which emphasizes the role of preferences in shaping consumer intentions and guiding them toward decisions. informed purchase Housing preferences, which may encompass factors such as financial factors, location, environment, neighborhood, infrastructure, developer service quality, superstition beliefs, residential characteristics, and demographic background, as a critical link between a buyer's intentions and their ultimate decision. When purchasing investment properties, buyers focus on features that make the property appealing for rent, attracting tenants, and aligning with market demands. On the other hand, buying a house for personal use is typically guided by personal preferences, such as choosing a location that suits the buyer's lifestyle. This type of purchase is often more emotional, driven by the desire to provide security and comfort for family members, creating a sense of home and stability (Hassan et al., 2021). Understanding between housing purchase intention, housing preferences and housing purchase decisions is crucial for real estate stakeholders and policymakers, as it allows them to design and present offerings that align with the preferences and motivations of potential buyers. By tailoring options to meet consumer needs, stakeholders can foster trust and increase the likelihood of successful transactions, ensuring both buyer satisfaction and market growth.

An overview of research on the various factors that influence housing purchase decisions is provided in Table 1.

Author(s) and Year	Main Research Object	Influence of Factors on Buying Decisions			
Cho, Newman, & Wear (2005)	Factors influencing rural housing purchase	housing purchases			
Di (2009)	Influence of a second home on the search for a main home	The presence of a second home impacts the search for another primary residence			
Al-Haddad (2011)	Impact of age and gender on apartment purchases	Age and gender significantly affect decisions to buy apartments			
Eze & Lim (2013)	Effects of key indicators on investors' decision to purchase a real estate property	Risk of inflation, inflation hedge, property prior real income of investors, access to financing, a interest rates on investors' decision to purchas real estate property			
Grum & Grum (2015)	Factors influencing real estate buying decisions	Four groups of factors related to real estate and four groups related to buyer psychology influence decisions			
Kamal & Pramanik (2015)	Impact of amenities, infrastructure, location, and price on housing purchases	Amenities, infrastructure, location, and price heavily influence buying decisions; buyer habits			
Źróbek, Trojanek, Źróbek-Sokolnik, & Trojanek (2015)	Environmental factors influencing buyer behavior	Environmental factors significantly influence home buyer behavior			
Chen, Hui, Seiler, & Zhang (2018)	Impact of housing policy on prices	Housing policy affects housing prices and purchasing decisions			
Dewita Yen, & Burke (2018)	Impact of transport prices and affordability	Transport prices and affordability of potential buyers impact housing purchase decisions			
Sundrani (2018)	The importance of factors that influence the purchase of a flat/apartment, of buyers of different types of flats/apartments	Price is the most important factor, followed by product and location			
Yadav, Gupta, & Singh (2018)	The major key factors affecting the buying decision of customers to buy residential apartments	Customer Relationship Management tools play a potential role in real estate sector			
Kurniawan, Dewi, Maulatsih, & Gunadi (2020)	The factors influencing millennial's housing purchase decision	Structural attributes, location, and financial factors positively influence millennial's purchase decision towards housing			
Li, Zhu, Zhao, Zheng, & Zhang (2020)	Impact of housing purchase restriction policy	Housing purchase restriction policies significantly influence buying decisions			
Rogers & Power (2020)	Housing policy in the context of the COVID-19 pandemic	Housing policies during the pandemic have influenced buying decisions			
Ullah & Sepasgozar (2020)	Factors influencing regrets after buying or renting a home	Various factors contribute to buyers' regrets after purchasing or renting homes (not enough information, complicated buy/sell process, house size, housing costs, mortgage, emotion, agents, inspection)			

Table 1. Overview of Research of the Factors Influencing Housing Purchase Decisions



Du, & Zheng (2020)	Impact of traffic factors on renting prices and buying decisions	Traffic factors significantly influence renting prices and decisions to buy houses
Chen, Hui, Seiler, & Zhang (2020)	Impact of housing saving policies on purchasing decisions	Housing saving policies affect housing purchasing decisions
Hassan, Ahmad & Hashim (2021)	Development of a conceptual framework for the housing purchase decision-making process	Housing purchase intentions, preferences, and decision-making
Nam, Yen, & Binh (2021)	The influencing factors and their impact levels on the decision to buy houses in the context of the COVID-19 pandemic	The decision to buy houses is influenced by 11 factor groups: COVID-19; position; neighboring; financial; real estate service; individual; housing service; real estate supply; economic; buyers' individual; legal factors
Abhang, & Kumar (2024)	Development of a database of academic information in house purchase decision through systematic literature review	Consumer behavior, housing attributes, factors influencing purchasing decisions, investment analysis, demographics
Levy & Lee (2024)	Relationship between social trends, peer influence, personal attitudes regarding real estate purchase decisions, perception of long-term property value and the mediating effect of hedging in influencing property and real estate purchases	Sentimental, personal and financial factors in real estate purchase decisions

An overview of research of the factors influencing housing purchase decisions highlights a wide array of determinants, including psychological, demographic, and environmental aspects, which play a significant role in shaping consumer behavior. However, it notable that financial factors, is while acknowledged in some studies, have not been as extensively analyzed compared to other influences, leaving a potential gap for further exploration.

Data Analysis and Results: The Dynamics of The Real Estate Market Prices in Lithuania

Assessing the dynamics of the real estate market, the research focuses specifically on the Lithuanian market, analyzing the factors influencing housing prices and consumer behavior. By examining recent trends in both rental prices and property prices, the study aims to provide insights into the unique characteristics of the Lithuanian real estate market.

The dynamics of the average annual rental prices of apartments in Lithuania from 2019 to 2023 is revealed in Figure 3.

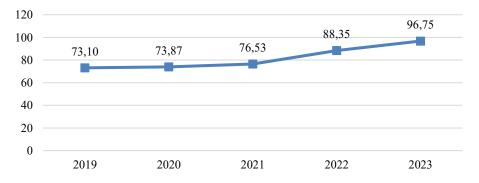


Figure 3. Average Annual Rental Prices of Apartments in Lithuania, EUR/m² per Year, 2019-2023

*Source: based on Official Statistics Portal of Lithuania, 2024.

The graph shows a clear upward trend in the average annual rental prices of apartments in Lithuania from 2019 to 2023. This indicates a consistent increase in rental costs, probably reflecting growing demand or limited supply within the market during this period. Figure 4 illustrates the housing price analysis of single and two-family buildings, as well as apartments in Lithuania from 2019 to 2023.

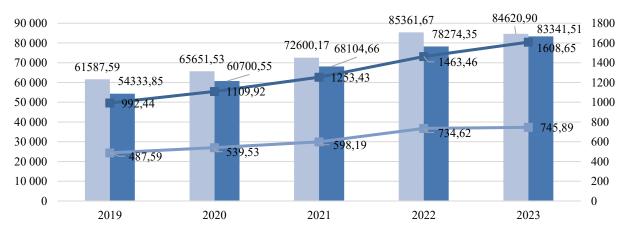


Figure 4. Housing Price Analysis: Single and Two-Family Buildings vs. Apartments in Lithuania, EUR and EUR/m², 2019-2023

*Source: based on Official Statistics Portal of Lithuania, 2024.

The graph reveals a steady increase in housing prices for both single and two-family buildings as well as apartments in Lithuania from 2019 to 2023. This upward trend suggests broader market growth, with both types of properties experiencing similar price rises, potentially driven by growing demand or limited housing supply in the region.

Data Analysis and Results: The Relationship Between the Changes in Housing Prices and Lithuanian Consumers' Intentions to Purchase Real Estate

Exploring the relationship between changes in housing prices and Lithuanian consumers' intentions to purchase or build real estate and trying to address research hypothesis, this study applies regression analysis. It evaluates how fluctuations in housing prices influence consumer behavior and decisionmaking, offering insights into the factors driving home-buying intentions. The research incorporates statistical secondary data from the Official Statistics Portal of Lithuania (2024) on changes in housing prices compared to the corresponding period of the previous year, along with the balance indicator of intentions to buy or build a house, apartment, summerhouse, etc., over the next 12 months, covering the period from 2019 to 2023.

ANOVA results from the regression analysis exploring the relationship between intentions to buy or build a house and housing prices in Lithuania are shown in Table 2.

Table 2. ANOVA Results of The Relationship between Intentions to Buy or Build a House and
Housing Prices in Lithuania

ANOVA	df	SS	MS	F	Significance F
Regression	1	131,9590643	131,9590643	13,70420419	0,004095515
Residual	10	96,29093565	9,629093565		
Total	11	228,25			



The ANOVA analysis examines the relationship between the balance indicator of intentions to buy or build a house, apartment, summerhouse, etc., in the next 12 months (dependent variable) and changes in housing prices compared to the corresponding period of the previous year (independent variable). The results reveal a significant F-statistic of 13.70, with a corresponding significance level (Significance F) of 0.0041. This indicates that changes in housing prices have a statistically significant effect on the balance indicator of consumer intentions to purchase or build residential properties. These findings suggest that fluctuations in housing prices are closely

linked to shifts in consumer intentions, underscoring the importance of monitoring price trends to better understand Lithuanian real estate market behavior.

The regression coefficients and model summary for the relationship between intentions to buy or build a house and changes in housing prices compared to the corresponding period of the previous year.

Table 3 shows that changes in housing prices compared to the corresponding period of the previous year significantly influence Lithuanian consumer intentions to buy or build residential properties.

 Table 3. Regression Coefficients and Model Summary for the Relationship Between Intentions to Buy or Build a House and Housing Prices in Lithuania

	Coeffici ents	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-	1,542121	-	3,66051E	-	-	-	-
_	93,3969	431	60,56392	-14	96,832985	89,960863	96,832985	89,960863
	2447		355		14	79	14	79
Changes in	0,62725	0,169440	3,701918	0,004095	0,2497185	1,0047941	0,2497185	1,0047941
Housing Prices	6396	876	987	515	97	95	97	95

Data in Table 3 reveals that an increase in housing prices is correlated with a higher likelihood of consumers expressing the intention to purchase, highlighting the importance of price trends in the housing market. To ensure the reliability and accuracy of the regression model, it is important to investigate the fit and distribution of the data. The evaluation of housing price changes in Lithuania, represented by the Normal Probability Plot in Figure 5, shows the distribution of the residuals.

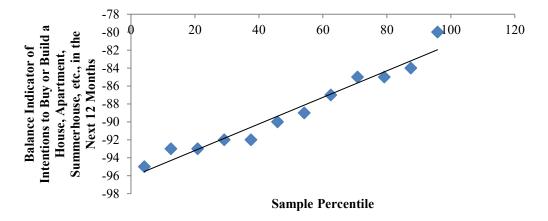


Figure 5. Normal Probability Plot Evaluating Housing Prices in Lithuania

The Normal Probability Plot in Figure 5, evaluating housing prices in Lithuania, reveals that the points lie approximately along a straight diagonal line. This suggests that the residuals are normally distributed, which supports the validity of the statistical inferences made by the regression model.

Figure 6 presents the Line Fit Plot of changes in housing prices compared to the corresponding period of the previous year, illustrating the trend and fluctuations in housing prices in Lithuania over time.

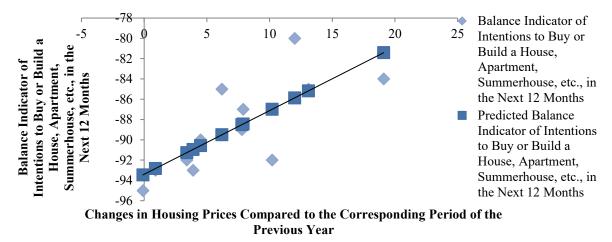


Figure 6. Changes in Housing Prices in Lithuania Compared to the Corresponding Period of the Previous Year Line Fit Plot

The Line Fit Plot of changes in housing prices in Lithuania compared to the corresponding period of the previous year in Figure 6, shows a general alignment with the regression line. However, a few points deviate significantly from the line, indicating that while the model captures the overall trend, there are specific instances where it does not fully account for the observed fluctuations in housing prices.

Figure 7 presents the Residual Plot of changes in housing prices in Lithuania compared to the corresponding period of the previous year, highlighting the distribution of residuals and potential deviations from the regression model.

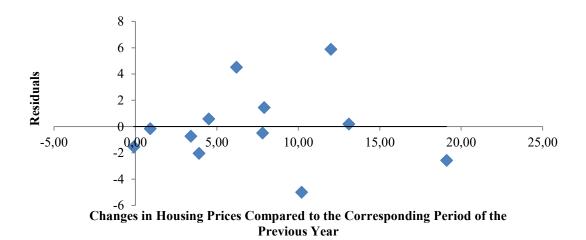


Figure 7. Changes in Housing Prices in Lithuania Compared to the Corresponding Period of the Previous Year Residual Plot



The Residual Plot of changes in housing prices in Lithuania compared to the corresponding period of the previous year in Figure 7, shows that the residuals are randomly scattered around the horizontal axis with no distinct pattern. This suggests that the model's assumptions are likely satisfied, indicating a good fit for the data and supporting the reliability of the regression analysis.

Summing up, the analysis revealed a statistically significant positive relationship between changes in housing prices and consumers' intentions to purchase real estate. Rising housing prices positively influence consumer intentions to buy or build residential properties. The regression analysis results confirms that the model's assumptions are met, with normally distributed residuals, thereby supporting the validity of the statistical inferences and enhancing confidence in the conclusions drawn regarding the relationship between housing prices and consumer behavior.

Conclusions

The study highlights key aspects of consumer behavior in the real estate market, demonstrating that consumers are highly responsive to fluctuations in housing prices. As prices rise, consumers' intentions to purchase or build residential properties are positively influenced, with many perceiving rising prices. Therefore, the research hypothesis (H1), claiming that increasing housing prices encourage Lithuanian consumers to buy housing sooner, can be accepted.

The analysis of housing prices in Lithuania revealed consistent upward trends between 2019 and 2023. As housing prices increase, they signal a thriving market, which in turn influences consumer behavior and purchasing decisions.

The regression analysis confirmed a statistically significant positive relationship

between changes in housing prices and Lithuanian consumers' intentions to buy or build real estate. This relationship suggests that as housing prices rise, consumers' likelihood of acting on purchasing or constructing properties increases. The findings emphasize that fluctuations in pricing trends are a key determinant of consumer decisions, with rising prices often perceived as a signal to invest before further increases occur.

To summarize, the research confirms that housing price changes play a critical role in shaping consumer behavior in Lithuania's real estate market. The positive correlation between price increases and purchasing intentions highlights the need for real estate professionals to closely monitor price trends and the importance of maintaining consumer confidence in a market sensitive to price fluctuations. These findings also suggest that potential buyers perceive rising prices as an indicator of value and scarcity, which motivates quicker purchasing decisions.

While this research provides valuable insights, it did not include an investigation into consumer behavior emotional or psychological aspects. Additionally, there were limitations related to the availability of international data, particularly due to differing calculation methods, especially in the context of Lithuania compared to other countries. Therefore, there is room for further exploration - introducing additional variables that might influence purchasing intentions. such as economic indicators. demographic changes, or buyer sentiment, could provide a more comprehensive understanding of real estate market dynamics. Future studies could build upon this research by examining and comparing international data, which could lead to broader insights applicable to real estate stakeholders.

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